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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/482,956	01/14/2000	Mrudula Kanuri	95-309	7724

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EXAMINER

JAGANNATHAN, MELANIE

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 09/11/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/482,956

Applicant(s)

KANURI, MRUDULA

Examiner

Melanie Jagannathan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Vig US 6,262,988 in view of Kadambi US 6,560,229.

Regarding claims 1,2,5,10,11,17-18,20, the claimed integrated network switch having a switching module is disclosed by switch (Figure 3, element 30) and subnets (elements 32 and 34) with hosts 36 and 38 attached respectively. The claimed obtaining from layer 2 packet, layer 3 information having network identifier, a subnetwork identifier and a host identifier, the subnetwork identifier identifying a corresponding one of the subnetworks and the host identifier identifying a transmitting node having transmitted the layer 3 packet information and the claimed storing address information from layer 2 packet, including host identifier in table is disclosed by switch CPU looking beyond layer 2 header of packet to decode layer 3 header in packet and getting both source and destination address, and source and destination subnet information and using subnet to ports table and MAC address to port table (Figure 9). See column 6, lines 13-18, column 8, lines 9-33 and lines 49-67.

Vig et al. discloses all of the limitations of the claims except for plurality of address tables within switching module based on corresponding subnetwork identifier, each of the address tables configured for storing the host identifiers of respective transmitting nodes of a

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corresponding one of the subnetworks. Kadambi discloses a plurality of lookup tables including port based VLAN tables (Figure 2, elements 23a, 23b, 23c, 31a, 31b) for mapping between ports on a network switch. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to divide information in a table regarding mapping between ports of subnets into a plurality of tables according to subnets. One of ordinary skill in the art would be motivated to do this for efficient address mapping.

Regarding claims 3-4, 12-13, 21-22, the claimed network switch with a plurality of network switch ports each connected to a corresponding one of subnetworks is disclosed by switch (Figure 4, element 40) with port 1 connected to a corresponding one subnet (element 42) and port 2 connected to a corresponding one subnet (element 44). Vig discloses all of the limitations of the claims except for the selecting the one address table based on the network switch port having received the layer 2 packet. Vig discloses the use of subnet to ports table and MAC address to port table (Figure 9) based on address information from packet. Kadambi discloses a plurality of lookup tables including port based VLAN tables (Figure 2, elements 23a, 23b, 23c, 31a, 31b) for mapping between ports on a network switch. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to divide information in a table regarding mapping between ports of subnets into a plurality of tables according to subnets. One of ordinary skill in the art would be motivated to do this for efficient address mapping.

Regarding claims 6, 9, 10, 16, the claimed searching table for stored table entry having layer 3 switching information based solely on host identifier and storing the address information from layer 2 packet into table based on determined absence of the stored table entry is disclosed.

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by subnet to ports table (Figure 9) and test to see if source subnet is defined in subnet to port mapping table by switch CPU and switch adding it to list of ports if it absent from table. See column 8, lines 49-59. Vig discloses all of the limitations of the claims except for the selecting the one address table based on the network switch port having received the layer 2 packet. Vig discloses the use of subnet to ports table and MAC address to port table (Figure 9) based on address information from packet. Kadambi discloses a plurality of lookup tables including port based VLAN tables (Figure 2, elements 23a, 23b, 23c, 31a, 31b) for mapping between ports on a network switch. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to divide information in a table regarding mapping between ports of subnets into a plurality of tables according to subnets. One of ordinary skill in the art would be motivated to do this for efficient address mapping.

3. Claims 7-8, 14-15, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vig and Kadambi in view of Ullum et al. US 6,266,705.

Vig and Kadambi disclose all of the limitations of the claims except for host identifier as key (claim 7), generating a hash key based on host identifier and searching for stored table entry using generated hash key (claim 8). Ullum et al. disclose a hash circuit (Figure 2, element 216) to map the VLAN data into a key. See column 5, lines 59-67 and column 6, lines 1-9. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to generate a hash key to search a table. One of ordinary skill in the art would be motivated to do this for efficient searching in table.

Response to Arguments

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4. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. Examiner agrees reference Chiang et al. US 6,529,503 is not available as a reference as it is owned by the same entity as present application.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tang et al. US 6,553,028 disclose multicast switching using centralized switching engine.

Rodrig et al. US 6,256,314 disclose apparatus and methods for routerless layer 3 forwarding in a network.

Oguchi et al. US 6,304,912 disclose speeding up layer 2 and layer 3 routing and for determining layer 2 reachability through a plurality of subnetworks.

Wils et al US 6,397,260 discloses automatic load sharing for network routers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 703-305-8078.

The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Melanie Jagannathan

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Patent Examiner
AU 2666

MJN



DANG TON
PRIMARY EXAMINER